

# C/CAG

## CITY/COUNTY ASSOCIATION OF GOVERNMENTS OF SAN MATEO COUNTY

*Atherton • Belmont • Brisbane • Burlingame • Colma • Daly City • East Palo Alto • Foster City • Half Moon Bay • Hillsborough • Menlo Park  
Millbrae • Pacifica • Portola Valley • Redwood City • San Bruno • San Carlos • San Mateo • San Mateo County • South San Francisco • Woodside*

**1:15 p.m., Thursday, October 20, 2005  
San Mateo County Transit District Office<sup>1</sup>  
1250 San Carlos Avenue, Second Floor Auditorium  
San Carlos, California**

### TECHNICAL ADVISORY COMMITTEE (TAC) AGENDA

- |  |                  |               |
|--|------------------|---------------|
| 1. Public comment on items not on the Agenda<br>(presentations are customarily limited to 3 minutes).  | Kline            | No materials. |
| 2. Issues from the last C/CAG and CMAQ meetings: <ul style="list-style-type: none"><li>• Approved - Extension of Half Moon Bay 2000 TDA Article 3 project.</li><li>• Approved - C/CAG funding commitment of \$100,000 to update countywide Geographic Information System (GIS) mapping.</li><li>• Approved - Draft 2005 Congestion Management Program.</li><li>• Approved - RFP for NPDES Program Manager.</li><li>• Approved - TECA funding agreements with Air District, Alliance, Menlo Park, and SamTrans.</li><li>• Approved - A new Transportation Project Manager position.</li><li>• Appointment of new TAC members: Duncan Jones and Ray Towne.</li><li>• Approved - San Mateo Countywide Intelligent Transportation System (ITS) Strategic Plan.</li></ul> | Wong             | No materials. |
| 3. Approval of the Minutes from July 21, 2005.   | Wong             | Pages 1-3     |
| 4. Response to comments from MTC on the Draft 2005 Congestion Management Program (CMP) and recommendation to adopt the Final 2005 CMP for San Mateo County.  | Wong             | Pages 5-6     |
| 5. Review and approve criteria for implementation of the ramp metering program in San Mateo County and authorization for the C/CAG Executive Director to negotiate a Memorandum of Understanding (MOU) with the California Department of Transportation for the implementation of a ramp metering program, and authorization for the C/CAG Chairman to execute said MOU.   | Martone/<br>Wong | Pages 7-12    |

---

<sup>1</sup> For public transit access use SamTrans Bus lines 390, 391, 292, KX, PX, RX, or take CalTrain to the San Carlos Station and walk two blocks up San Carlos Avenue. Driving directions: From Route 101 take the Holly Street (west) exit. Two blocks past El Camino Real go left on Walnut. The entrance to the parking lot is at the end of the block on the left, immediately before the ramp that goes under the building. Enter the parking lot by driving between the buildings and making a left into the elevated lot. Follow the signs up to the levels for public parking.

- |     |  |         |  |
|-----|--|---------|--|
| 6.  | Recommendation on funding support for a project to interconnect and modify signals, upgrade controllers and other improvements on El Camino Real from Menlo Park to Millbrae.  | Wong    | Pages 13-15  |
| 7.  | Recommendations on the 2006 State Transportation Improvement Program (STIP) for San Mateo County.  | Napier  | Pages 17-18  |
| 8.  | Review and approval of an incentive program for local jurisdictions to participate in the development and implementation of a transportation and land use plan for the El Camino Real Corridor.  | Martone | Pages 19-28  |
| 9.  | Recommendation to adopt Policy on Traffic Impact Analysis to determine impacts on the Congestion Management Program (CMP) Roadway Network resulting from roadway modifications, General Plan Updates, and land use development projects. | Wong    | Pages 29-40<br>Plus long sheet enclosed separately |
| 10. | Member Reports.  | Kline   |  |

**TECHNICAL ADVISORY COMMITTEE (TAC)  
FOR THE  
CONGESTION MANAGEMENT PROGRAM (CMP)**

**July 21, 2005  
MINUTES**

The one hundred fifty-fifth (155<sup>th</sup>) meeting of the Technical Advisory Committee (TAC) was held in the SanTrans Offices, 1250 San Carlos Avenue, San Carlos, Bacciocco Auditorium. Neil Cullen, Co-Chair, called the meeting to order at 1:18 p.m. on Thursday, July 21, 2005.

TAC members attending the meeting were:

April Chan – SanTrans  
Neil Cullen - San Mateo County Engineer (Co-Chair)  
Ray Davis – Belmont  
Craig Ewing - Belmont  
Gene Gonzalo – Caltrans  
Rick Mao – Colma  
Mcg Monroe - Burlingame  
Parviz Mokhtari – San Carlos  
Rubin Niño – Menlo Park  
Van Ocampo - Pacifica  
Larry Patterson - San Mateo  
Ray Razavi - South San Francisco  
Mo Sharma – Daly City

Others attending the meeting were:

Walter Martone and Sandy Wong, C/CAG  
Pat Dixon - San Mateo County Transportation Authority Citizens Advisory Committee  
Brian Lee – San Mateo County Public Works  
Adam Lodge – San Mateo County Public Works (GIS)  
Christine Maley-Grubl – Peninsula Congestion Relief Alliance  
Richard Haygood – Redwood City  
Beth Thomas – San Mateo County Transportation Authority  
Gloria Kanu – San Mateo County  
Charles Borden – San Mateo County  
Jeff Saunders – Parallon Geographics, INC

**1. Public comment on items not on the agenda.**

None.

**2. Issues from the last C/CAG and CMAQ meetings.**

As shown on Agenda.

**3. Approval of the Minutes from May 19, 2005.**

Approved.

**5. Recommendation on C/CAG funding commitment to update GIS maps for San Mateo County.**

This item was moved up on the Agenda. Walter Martone presented the staff recommendation of C/CAG provides funding to update the Countywide Geographic Information System (GIS) contingent upon securing funding commitments from the County and the Transportation Authority (TA). Proposed funding share is: \$240K from County, \$100K each from TA and C/CAG, \$40K from remaining partners comprised of special districts. Adam Lodge of San Mateo County GIS Program was there to answer technical questions.

The TAC was also asked to make a recommendation on whether or not to spend the additional \$150,000 to obtain a higher resolution of photography to allow for some engineering use. If yes, the cost sharing would be \$50,000 each from C/CAG, County, and the Transportation Authority. Although a minority opinion was to get the higher resolution will be beneficial, the majority opinion was that it's not worth it. Some cities have already taken aerial photography of their own. Even though the higher resolution was for engineering use, it really will not be good enough for design purposes and there was no consensus on what engineering grade is.

Final decision of the TAC was to recommend C/CAG to provide the \$100K in funding for the Countywide GIS update, and contribute the \$50K for higher resolution only if both the County and TA desire to do so.

**4. Accept the Draft 2005 Congestion Management Program (CMP) for San Mateo County.**

Sandy Wong highlighted some of the changes included in the Draft 2005 CMP. A new Chapter 11 is added to include program information on the \$4 fee on motor vehicles registered in San Mateo County. In the 2005 congestion monitoring, a total of five CMP segments were found to be deficient. Since all jurisdictions signed off on the Countywide Congestion Relief Plan in 2002, it absolved any jurisdiction from the requirement of preparing Deficiency Plan even if a deficiency is found in their jurisdiction.

Sandy also pointed out that the CMP intersection Levels of Service (LOS) as shown in Table 2 for the Monitoring Report included in Appendix F presents the comparison of LOS calculated by two different methods: the Circular 212 method which uses traffic volume at an intersection; and the Highway Capacity Manual (HCM) method which uses delay time at an intersection. The HCM method yields worse LOS for some CMP intersections than those derived from the Circular 212 method.

Member Mokhtari raised the question of changing the LOS standards for the arterial segment, i.e., the El Camino Real because the current standard is set at LOS "E" while almost all of previous and current monitoring results show LOS "A" through "D", and that many jurisdictions adopted LOS "D" as their standard. However, it was pointed out that State legislation does not permit the change of standard from "E" to "D". It was decided that a decision to change CMP standard is beyond the scope of this agenda item.

Co-Chair Cullen suggested to use the word "degraded to below the LOS standard" instead of "exceeded the LOS standard". Suggestion was noted.

Member Sharma moved/Member Monroe seconded acceptance of the Draft 2005 CMP. Motion passed unanimously.

**6. Accept the Draft San Mateo County Intelligent Transportation Systems (ITS) Strategic Plan.**

Sandy Wong provide a highlight of the Draft Final San Mateo County Intelligent Transportation System (ITS) Strategic Plan. This ITS Strategic Plan was developed under the guidance of a Working Group consisting of representatives from several cities, SMCTA, C/CAG, MTC, and Caltrans. ITS vision and goals for San Mateo were developed as part of the strategic planning process. The Strategic Plan identifies and prioritizes potential ITS applications on a countywide approach. It includes auto, transit, traveler information, and incident management improvement opportunities. It complies with the federal requirement of consistency with the Regional ITS architecture and national ITS architecture. The Strategic Plan also recommended a list of near term projects that can be developed and implemented right away.

TAC accepted the Draft Final San Mateo County Intelligent Transportation System (ITS) Strategic Plan with recommended changes to expand the vision statement to include all modes of travel, and to add homeland security funds and MTC Regional Measure 2 funds to the list of potential funding sources.

**7. Measure A update.**

None.

**8. Member Reports.**

None.

The meeting adjourned at 2:42 p.m.



# **C/CAG AGENDA REPORT**

**Date:** October 20, 2005  
**To:** Technical Advisory Committee  
**From:** Sandy Wong  
**Subject:** RESPONSES TO COMMENTS ON THE DRAFT 2005 CONGESTION  
MANAGEMENT PROGRAM (CMP) AND RECOMMENDATION TO ADOPT  
THE FINAL 2005 CMP FOR SAN MATEO COUNTY

(For further information or questions contact Sandy Wong at 599-1409)

---

## **RECOMMENDATION**

Accept the attached responses to comments on the Draft 2005 Congestion Management Program (CMP) and recommend adoption of the final 2005 CMP.

## **FISCAL IMPACT**

Adopting the CMP in itself will not have any fiscal impact.

## **SOURCE OF FUNDS**

Not applicable.

## **BACKGROUND/DISSION**

The Draft 2005 Congestion Management Program (CMP) and the notice of its availability for review have been sent to all interested parties. The review period was closed on September 15, 2005. Comments were received from the Metropolitan Transportation Commission (MTC) staff. The following changes have been incorporated in the Final 2005 CMP in response to comments received:

*Chapter 1* – Reference to the goals and objectives established by the MTC *Transportation 2030* Plan are added to item 7 on page 1-5.

*Chapter 8* – Associated with the changes made in Chapter 1 above, the *Transportation 2030* goals and objectives are made more prominent on page 8-3.

*Chapter 6* – On July 27, 2005, MTC adopted the Transit Oriented Development (TOD) policy for regional transit expansion projects. Impacts from this TOD policy on San Mateo County transit expansion projects are noted on page 6-6.

In addition to changes made in response to external comments, C/CAG staff also incorporated the following changes into the Final 2005 CMP:

*Chapter 5 - Trip Reduction and Travel Demand Element:* A new section regarding the Countywide Congestion Relief Plan (Local Transportation Services element) has been added on page 5-9.

*Chapter 7 – Deficiency Plan Guidelines:* The extension of the Countywide Congestion Relief Plan through 2006-07 was reflected on page 7-13.

*Chapter 9 – Data Base and Travel Model and Appendix K – Checklist for Modeling Consistency:* After the Draft 2005 CMP was adopted by C/CAG Board on August 11, 2005, the countywide travel demand forecasting model update has been completed and hence, Chapter 9 and its corresponding Appendix K of the CMP have been updated accordingly.

### **ATTACHMENT**

Final 2005 Congestion Management Program (CMP) for San Mateo County  
(Attached for TAC members only. Other interested parties may contact Sandy Wong at 650.599.1409 for copies).



# **C/CAG AGENDA REPORT**

**Date:** October 20, 2005

**To:** Technical Advisory Committee

**From:** Richard Napier, Executive Director

**Subject:** REVIEW AND APPROVE CRITERIA FOR IMPLEMENTATION OF THE RAMP METERING PROGRAM IN SAN MATEO COUNTY AND AUTHORIZATION FOR THE C/CAG EXECUTIVE DIRECTOR TO NEGOTIATE A MEMORANDUM OF UNDERSTANDING (MOU) WITH THE CALIFORNIA DEPARTMENT OF TRANSPORTATION FOR THE IMPLEMENTATION OF A RAMP METERING PROGRAM, AND AUTHORIZATION FOR THE C/CAG CHAIRMAN TO EXECUTE SAID MOU.

(For further information or questions contact Richard Napier at 599-1420 or Sandy Wong at 599-1409 or Walter Martone at 599-1465)

---

## **RECOMMENDATION**

That the TAC consider making the following recommendations to the CMAQ and C/CAG Board:

1. Review and approve criteria for implementation of the Ramp Metering Program in San Mateo County; and
2. Authorize the C/CAG Executive Director, working together with C/CAG's Ramp Metering Technical Advisory Committee (TAC), to negotiate a Memorandum of Understanding (MOU) with the California Department of Transportation (Caltrans) that sets forth the details of a ramp metering program for State Route 101 and Interstate 280 (north of Route 380); and
3. Authorize the C/CAG Chairman to execute said MOU; and
4. Authorize C/CAG's Ramp Metering TAC to define the specific operational parameters of the ramp metering program, subject to the approval of C/CAG's Executive Director.

## **FISCAL IMPACT**

The cost to implement the first phase (Highway 101 South of Highway 92 to County line) of the ramp metering program is anticipated to be approximately \$500,000.

## **SOURCE OF FUNDS**

The Metropolitan Transportation Commission (MTC) has identified full funding (\$500,000) and will approve it at the December Commission meeting. The Countywide Congestion Relief Plan

specifically designated funds for ramp metering and is available if additional funding is needed.

### **PRIOR ACTION**

As part of the adoption of the Countywide Congestion Relief Plan by C/CAG on February 14, 2002, C/CAG was authorized to be the Countywide entity responsible for determining if, when, and how a ramp metering program would be implemented in San Mateo County. This decision included authorizing C/CAG as the organization to enter into the agreement with Caltrans to establish the parameters for the program for the entire corridor. In 2003, as part of the Countywide Congestion Relief Plan, the C/CAG Board approved a study of the impacts of a Ramp Metering Program along the Peninsula Corridor. As a result of the study the Board concluded on February 10, 2005 that ramp metering has the potential to have overall positive benefits on travel times throughout the study area (the entire Route 101 corridor and the Route 280 corridor north of Route 380). Furthermore, these benefits could be accomplished with little to no negative impacts on local streets/ roads. Complete details of the San Mateo County Ramp Metering Study Conclusions are attached. Some of the major conclusions include:

- There is potential for a **positive impact** with little/ no negative impacts on local streets.
- **Ramp metering** should be pursued on a **corridor basis**.
- **Meter queues should be limited to the storage capacity of the on-ramps** plus any dedicated lane accessing the ramp to **prevent backup onto the local streets**.
- **Local control** through C/CAG and a Ramp Metering TAC should be **maintained** in any potential agreement with Caltrans for implementation and operation.
- There should be **no local costs**.
- **Further analysis of specific local concerns** should be undertaken prior to implementation or further deployment.

### **BACKGROUND/DISCUSSION**

MTC and Caltrans have identified Ramp Metering as a cost effective approach to improve the operation of the road network with a resulting improvement in the overall mobility.

Therefore, there is a strong regional commitment to implement ramp metering in the Bay Area. MTC is currently considering the adoption of a policy that ties the allocation of local streets and roads or other funding to that jurisdiction's or County's cooperation in a regional approach to ramp metering. The process proposed by C/CAG will comply with that potential policy and ensure that San Mateo County and its jurisdictions qualify for funding

### **BENEFITS OF RAMP METERING**

C/CAG's ramp metering study identified a number of benefits that can be realized from a carefully designed and implemented ramp metering program. The most important of these include:

1. **Better operation and safety on the freeways.** Anticipated reduction of 10% in

- accidents.
- 2. **Potential travel time savings** of 5% to 10% depending on the distance of the trip.
- 3. **Incentives for high occupancy vehicles (HOVs)** by providing separate access lanes to the freeway for HOVs that bypass the ramp meters.
- 4. **Redistribution of traffic flow** and breaking up platoons of vehicles to reduce bottlenecks.

### **RAMP METERING IMPLEMENTATION CRITERIA**

The C/CAG Board should approve the following criteria to guide the C/CAG staff and Ramp Metering TAC in the detailed implementation of the program.

- 1. **Minimize backup on local streets.** Utilize spillback detectors to automatically turn the meter to "all green" when the backup on the ramp exceeds the ramp's storage capacity.
- 2. **Local control.**
  - a. C/CAG approval will be required before any ramp metering devices are activated. The approval of the C/CAG Ramp Metering TAC will be required before any adjustments are made to the ramp metering parameters (times of operation, metering rates, etc.).
  - b. The C/CAG Ramp Metering TAC, composed of representatives of all of the jurisdictions covered by the ramp metering program, will continuously monitor and oversee the program.
- 3. **No cost to the cities/County.** The total cost of the implementation and maintenance of the ramp metering program will be borne by a combination of C/CAG (through its Congestion Relief Plan and other funding sources), Caltrans, and outside grants.
- 4. **An annual review of the program** will be provided to the Board. Ongoing status of the program will be provided to the Board by including the minutes of the Ramp Metering TAC to the Board under correspondence.

### **PROPOSED RAMP METERING PROGRAM**

The basic components of the ramp metering program that have been developed by C/CAG's Ramp Metering TAC include the following:

- 1. C/CAG will execute a **Ramp Metering MOU** with Caltrans that **preserves local control** through C/CAG.
- 2. **Minimize backup on local streets.** Utilize spillback detectors to automatically turn the meter to "all green" when the backup on the ramp exceeds the ramp's storage capacity.
- 3. **No cost to the cities/County.** The total cost of the implementation and maintenance of the ramp metering program will be borne by a combination of C/CAG (through its Congestion Relief Plan and other funding sources), Caltrans, and outside grants.
- 4. C/CAG, through its **Ramp Metering TAC will control the ramp metering parameters** such as hours of operation, metering queue limits, and meter rate changes.
- 5. The Ramp Metering TAC will continue to meet quarterly during the entire time that a metering program is in effect.
- 6. The initial ramp metering program will be passive metering; however the eventual goal

through C/CAG's Intelligent Transportation System (ITS) program will be to **implement active (real-time) metering.**

7. **The Ramp Metering TAC will establish the level of effort of monitoring that will be conducted.**
8. **"Before" and "After" monitoring will be required at selected local street intersections near the metered on-ramps to monitor and assess any impacts of the program.**
9. **The Ramp Metering TAC will on an on-going basis, review the monitoring data and recommend solutions to problems raised by the Cities/ County.**
10. **Caltrans will maintain all metering equipment.**
11. **Caltrans will have the ability to make short-term spot decisions to change metering rates when there is a limited term incident on the freeway. Caltrans will promptly notify the local jurisdictions impacted by such decisions.**
12. **The ramp metering program will be implemented in three Phases:**
  - a. **Phase 1 - US 101 South (from Santa Clara County line to Rte 92)**
  - b. **Phase 2 - US 101 North (from Route 92 to SF County line)**
  - c. **Phase 3 - I-280 North (from I-380 to SF County line)**
13. **The overall ramp metering program will undergo a regular operational evaluation every two years to determine its effectiveness.**
14. **An annual review of the program will be provided to the Board. Ongoing status of the program will be provided to the Board by including the minutes of the Ramp Metering TAC to the Board under correspondence.**

### **QUESTIONS AND ANSWERS**

Some of the most frequently raised questions about ramp metering are addressed in an attached listing of Questions and Answers.

### **STAFF, TAC, AND CMAQ RECOMMENDATIONS**

1. **Authorize the C/CAG Executive Director, working together with C/CAG's Ramp Metering Technical Advisory Committee (TAC), to negotiate a Memorandum of Understanding (MOU) with the California Department of Transportation (Caltrans) that sets forth the details of a ramp metering program for State Route 101 and Interstate 280 (north of Route 380); and**
2. **Authorize the C/CAG Chairman to execute said MOU; and**
3. **Authorize C/CAG's Ramp Metering TAC to continue to define the parameters of the ramp metering program, subject to the approval of C/CAG's Executive Director.**

### **ATTACHMENTS**

San Mateo County Ramp Metering Study Conclusions  
Ramp Metering Questions

## **SAN MATEO COUNTY RAMP METERING STUDY CONCLUSIONS**

As a result of the Congestion Relief Plan Ramp Metering study the Board concluded on February 10, 2005 that ramp metering has the potential to have overall positive benefits on travel times throughout the study area (the entire Route 101 corridor and the Route 280 corridor north of Route 380). Furthermore, these benefits could be accomplished with little to no negative impacts on local streets and roads.

Some of the other conclusions from the study included:

- Ramp metering should be pursued as part of an integrated improvement program.
- While Ramp metering should be pursued on a corridor basis it is not necessarily beneficial for all lights in a corridor to be metered. What lights will be metered is a function of traffic level, location, direction, and time.
- The basic operating principle should be that meter queues be limited to the storage capacity of the on-ramps plus any dedicated lane accessing the ramp to prevent backup onto the local streets.
- Local jurisdictions and Caltrans should commit to the joint development and adoption of cooperative policies, including:
  - Local control through C/CAG is retained.
  - An ongoing process to ensure that future concerns of local agencies are addressed and resolved.
  - A process to determine how intersection impacts would be identified and resolved.
- No local costs. Implementation cost would be funded by C/CAG or State/ Federal sources.
- Metering operation should be implemented on a corridor-wide basis. If implemented in phases, the number of phases should be limited to:
  - US 101 south of SR 92
  - US 101 north of SR 92 (including SR 92)
  - I-280 north of I-380
- Meters should be installed and turned on at all on-ramps (including freeway-to-freeway connectors).
- Where and when demand exceeds maximum metering capacity, meters should operate in "all green" mode to avoid excessive queuing.
- Metering equipment should include spillback detectors.
- Where and when queues exceed the maximum storage capacity, meters should be programmed to operate at a higher rate or in "all green" mode.

## **RAMP METERING QUESTIONS**

- 1- Isn't this just improving the freeway at the expense of the local roads?

No. It is not acceptable to maximize the freeway at the expense of the local roads. The objective is to balance the two to maximize the mobility over both the freeway and the local streets.

- 2- What will be done to minimize the backup on local streets?

The type of metering proposed will by definition minimize the backup on local streets. It will utilize spillback detectors to automatically turn the meter to "all green" when the backup on the ramp exceeds the ramp's storage capacity.

- 3- Who enters into the agreement with Caltrans?

C/CAG was granted the authority to enter into the agreement with Caltrans for ramp metering as part of the Congestion Relief Plan.

- 4- Will the Cities/ County have any say in establishing the parameters?

Yes. C/CAG has defined a process to establish the technical parameters that include the cities and County staff.

- 5- Will Caltrans be able to unilaterally adjust the ramp meter timing?

No. It will be decided by all parties through the C/CAG identified process. This will be specified in the Memorandum of Understanding with Caltrans.

- 6- Will it cost the cities/County to implement Ramp Metering?

No. The cost of implementing ramp metering will be born by the Countywide Transportation funding programs such as the Congestion Relief Plan, Surface Transportation Program (STP), and State Transportation Improvement Program.

- 7- Will there be a Technical Advisory Committee?

Yes. It will include all of the Cities/ County that wish to participate. The TAC will be authorized to work with Caltrans to establish the operating parameters with the approval of the C/CAG Executive Director.

- 8- If parameters are established and there is a problem, are the cities/ County stuck with it?

No. The TAC will review the problem and work with Caltrans to make adjustments to address the problem.

- 9- How will one determine if ramp metering is working?

There will be regular monitoring to assess the effectiveness of ramp metering and to identify adjustments to optimize the performance.

# **C/CAG AGENDA REPORT**

**Date:** October 20, 2005

**To:** Technical Advisory Committee (TAC)

**From:** Richard Napier, Executive Director

**Subject:** Recommendation on funding support for a project to interconnect and modify signals, upgrade controllers and other improvements on El Camino Real between Menlo Park and Millbrae

(For further information contact Sandy Wong at 599-1409)

---

## **RECOMMENDATION**

That the Technical Advisory Committee (TAC) recommend C/CAG to provide funding support for a project to interconnect and modify signals, upgrade controllers and other improvements on El Camino Real between the cities of Menlo Park and Millbrae.

## **FISCAL IMPACT**

Funding for this project will be from various federal, state, regional funds, as well as funds from current C/CAG programs. No new member assessment will be required as a result of this project. The total cost of this project is anticipated to be over \$10 million. Project construction is anticipated in 2009.

## **SOURCE OF FUNDS**

Funding for this project will come from State Highway Operation and Protection Program (SHOPP), State Transportation Improvement Program (STIP), Surface Transportation Program (STP), Congestion Management and Air Quality Program (CMAQ), C/CAG Congestion Relief Plan, and other sources. C/CAG will develop a funding package from this array of funding sources based on the availability of these funds at the time of project implementation.

Caltrans proposes to fund over 50% of this project using SHOPP funds. The SHOPP is a State maintenance and operations program that is fully controlled by the State. The State also requires that the costs of any new traffic signal, modification of a signal or signal system, electrical facilities on a State highway intersecting with a local street, be shared with a local agency on a prorated basis in the same ratio as the number of legs in the intersection under each agency's jurisdiction.

## **BACKGROUND/DISCUSSION**

### **Background**

The California Department of Transportation (Caltrans) proposes a project to upgrade existing traffic signals and controllers and interconnect signals along the El Camino Real corridor between the city limits of Menlo Park and Millbrae, inclusive. It is Caltrans policy and practice that the costs of this type of projects on a State highway that intersects a local street be shared by the State and local agencies. Caltrans has contacted all the cities within the project limits, including Menlo Park, Atherton, Redwood City, San Carlos, Belmont, San Mateo, Burlingame and Millbrae regarding this project. All cities are supportive of Caltrans on the project, although most cities have difficulties in financing their share of the costs.

C/CAG, as the Countywide Congestion Management Agency, has adopted a vision as part of its Intelligent Transportation System (ITS) Strategic Plan, to make the El Camino Real corridor a "smart" corridor. This project will lay out some critical infrastructure to achieve that vision. It is prudent for C/CAG to provide financial support on this project to make it possible. The C/CAG funds spent in this project will leverage a much larger share of State funds which would otherwise go to projects in other counties.

### **Scope of Work:**

This project proposes to upgrade existing traffic signals and controllers, install conduits and signal interconnect cables (SIC) for traffic signal interconnection and communication link on Route 82 (El Camino Real), from Cambridge Avenue in the City of Menlo Park to Millbrae Avenue in city of Millbrae in San Mateo County. It includes the cities of Menlo Park, Atherton, Redwood City, San Carlos, Belmont, San Mateo, Burlingame and Millbrae.

Signal interconnect and upgrade on El Camino/State Route 82 between the cities of San Bruno and Daly City are already in place.

### **Benefits:**

The conduits and signal interconnect cables (SIC) installation will facilitate traffic data flow between the traffic signals and the field masters. Communication link between the field masters and Caltrans district office makes traffic signal monitoring available to cities and Caltrans along this corridor.

The installation of communication links between the field masters and Caltrans district office, together with the installation of SIC and loop detectors throughout the project will enable the cities and Caltrans to remotely monitor all the traffic signals within the project limits. Further, the system can gather and provide traffic related data such as traffic volume, average speed, occupancy, individual signal timings, green status, cabinet alarm status and system performance. It has the potential to remotely control the signal timing plans and coordination plans. In addition, the GPS time clocks will provide accurate real time for Time-Of-Day signal coordination plans. The proposed system will synchronize and coordinate multiple signalized



intersections, divided into several sub-systems, along Route 82 within the project limits. This will provide better traffic progression along the state highway as well as the local cross streets. This in turn will decrease the number of vehicular stops and thus improve air quality. It will provide Caltrans staff with the tool to implement real time traffic responsive plans in case of sudden traffic fluctuation or emergency on the corridor. It ties in with the incident management goal established in the San Mateo County ITS Strategic Plan.

This project will also help the future implementation of SamTrans "Rapid Bus" service with the installation of the above mentioned traffic signal equipments. When SamTrans is ready to deploy its "Rapid Bus" service, higher bus speed, lower dwell time, on time schedule and reliable bus service can be realized. This will help reduce cost, attract more riders and reduce traffic volume on the corridor.

#### **Costs:**

Preliminary cost estimates are as outlined below. These cost estimates include signal interconnect, modification and all related electrical cost to be shared on a 50/50 basis by the State and locals. Roadway improvements such as removal of "pork-chop" islands will be funded 100% by the State. All cost estimates are preliminary. Actual costs will be established during final design stage. A cooperative agreement will be developed at that time.

	<u>Local</u> (C/CAG Support)	<u>State</u>	<u>Total</u>
Signal & Electrical	\$4,055,100	\$5,310,300	\$9,365,400
Roadway Improvements	\$ 0	\$1,510,300	\$1,510,300
Preliminary Engineering	\$ 583,900	State staff	\$ 583,900
Construction Engineering	\$ 486,700	State staff	\$ 486,700
Total:	\$5,125,700	\$6,820,600*	\$10,875,700*

\* Does not include State staff cost.

#### **ATTACHMENT**

None. (Copies of the Supplemental Project Study Report prepared for this project by Caltrans is available upon request. Contact Sandy Wong at 650.599.1409 or slwong@co.sanmateo.ca.us)



# **C/CAG AGENDA REPORT**

**Date:** October 20, 2005  
**To:** C/CAG Technical Advisory Committee (TAC)  
**From:** Richard Napier, Executive Director  
**Subject:** RECOMMENDATIONS ON THE 2006 STATE TRANSPORTATION  
IMPROVEMENT PROGRAM (STIP) FOR SAN MATEO COUNTY  
  
(For further information or questions contact Richard Napier at 599-1420)

---

## **RECOMMENDATION**

That the Technical Advisory Committee (TAC) approve the 2006 STIP for San Mateo County as presented in the attachment to this report.

## **FISCAL IMPACT**

To be provided orally at the meeting.

## **SOURCE OF FUNDS**

State Transportation Improvement Program (STIP).

## **BACKGROUND/DISCUSSION**

Attached is a summary of the proposed programs to be included in the 2006 STIP for San Mateo County. An oral report explaining the STIP process and how the projects were determined will be provided at the TAC meeting.

## **ATTACHMENT**

2006 RTIP Development.

# 2006 RTIP Development

(\$1,000's)

San Mateo																			
Projects Currently Programmed or Voted Since July 1, 2004																			
Agency	Rte	Project	Ext	Voted	Total	Prior	04-05	06-06	06-07	07-08	08-09	09-10	10-11	Project Totals by Component	Const	E & P	PSSE	ROW Sup	Con Sup
Caltrans	92	689B Slow vehicle lane improves (incr) (02S-88)			442	442	0	0	0	0	0	0	0	200	0	0	91	151	0
Caltrans	92	689B Slow vehicle lane improves (02S-88)			343	343	0	0	0	0	0	0	0	343	0	0	0	0	0
Caltrans	101	689B Aux lanes-SCL Co. line to Marsh Rd			1,535	1,535	0	0	0	0	0	0	0	0	0	53	1,482	0	0
Caltrans	101	680A Willow Rd interchange reconstruction			1,029	1,029	0	0	0	0	0	0	0	0	0	54	975	0	0
Caltrans	101	700B Aux lanes, 3rd Av-Millbrae Av (RTIP)			350	350	0	0	0	0	0	0	0	0	0	0	350	0	0
Caltrans	101	700B Aux lanes, 3rd Av-Millbrae Av (RTIP)			28,455	0	28,455	0	0	0	0	0	0	0	28,455	0	0	0	350
MTC	2140B	5B 3280 reimbursement (03-04 PPM) (02S-124)			47	0	0	0	47	0	0	0	0	0	47	0	0	0	0
MTC	2140C	Planning, programming, and monitoring			49	0	0	49	0	0	0	0	0	0	49	0	0	0	0
SM CAG	2140A	Planning, programming, and monitoring			67	0	0	67	0	0	0	0	0	0	67	0	0	0	0
San Mateo City	10	2140D 3rd/4th St ped and streetscape			410	0	410	0	0	0	0	0	0	0	410	0	0	0	0
Prior Commitments (Not Part of 2006 STIP Target)					32,787	3,809	440	28,511	47	0	0	0	0	543	28,718	107	2,898	151	350
Caltrans	1	628 Devil's Slide Tunnel (RTIP)			750	0	0	0	0	0	750	0	0	0	750	0	0	0	0
Caltrans	101	703B Aux lanes, 3rd Av-Millbrae Av (RTIP)			0	0	0	0	0	0	0	0	0	0	28,145	0	0	0	350
Caltrans	92	688 Half Moon Bay widening			7,759	0	0	0	0	0	0	0	7,759	0	0	0	0	0	0
Caltrans	92	689B Slow vehicle lane improves (incr) (02S-88)			4,781	0	0	0	0	0	0	0	4,781	0	4,781	0	0	0	0
Caltrans	92	689B Slow vehicle lane improves (02S-88)			9,021	0	0	0	0	3,021	18,995	5,000	0	0	7,617	0	0	0	1,404
Caltrans	101	689B Aux lanes-SCL Co. line to Marsh Rd			25,048	0	0	0	0	3,081	18,995	5,000	0	0	2,315	14,821	0	178	2,734
Caltrans	101	680A Willow Rd interchange reconstruction			2,120	0	0	0	0	2,120	0	0	0	0	534	0	0	0	0
BART	100	103B SFO Airport Bicycle Trail (State only)			11,836	0	0	0	0	0	0	11,836	0	0	0	0	0	0	0
San Mateo CTA	82	225G R52 widening, curve correction			5,000	0	0	0	0	0	5,000	0	0	0	0	0	0	0	0
Caltrans	82	El Camino Signal Coordination (SHORP)			6,900	0	0	0	0	6,900	0	0	0	0	0	0	0	0	0
Caltrans	1	Calera Parkway			264	0	0	0	48	50	56	55	55	0	99	0	0	0	0
MTC	2140C	Planning, programming, and monitoring (02S-87)			443	0	0	0	67	67	103	103	103	0	237	0	0	0	0
SM CAG	2140A	Planning, programming, and monitoring (02S-87)			73,720	0	0	0	116	12,228	31,884	5,158	24,334	0	3,489	59,069	0	176	3,688
Total Non-RTIP Subject to Reprogramming in 2006 STIP					9,103	0	0	0	0	9,103	0	0	0	0	6,118	1,985	0	1,000	0
San Mateo CTA	rail	1003G T-10n and Poplar Av grade separations (02S-16)			9,103	0	0	0	0	9,103	0	0	0	0	6,118	1,985	0	1,000	0
Total PTA-eligible subject to Reprogramming in 2006 STIP					9,103	0	0	0	0	9,103	0	0	0	0	6,118	1,985	0	1,000	0
Total PTA and Non-PTA Currently Programmed (A)					118	21,331	31,384	5,158	24,334	0	0	0	0	0	0	0	0	0	0
2006 STIP Respending Target					2,955	20,143	21,793	8,023	861	0	0	0	0	0	0	0	0	0	0
2006 STIP New Capacity (B)					22,445	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Necessary Programming Adjustments to Meet Targets					2,239	1,188	10,081	885	828	0	0	0	0	0	0	0	0	0	0
PTA Adjustment					2,239	7,916	10,081	885	828	0	0	0	0	0	0	0	0	0	0

\* New Capacity per 1/04 advance for PTA eligible projects only provided statewide capacity available

# **C/CAG AGENDA REPORT**

**Date:** October 20, 2005

**To:** Technical Advisory Committee

**From:** Richard Napier, Executive Director

**Subject:** REVIEW AND APPROVAL OF AN INCENTIVE PROGRAM FOR LOCAL JURISDICTIONS TO PARTICIPATE IN THE DEVELOPMENT AND IMPLEMENTATION OF A TRANSPORTATION AND LAND USE PLAN FOR THE EL CAMINO REAL CORRIDOR

(For further information or questions contact Richard Napier at 599-1420, Walter Martone at 599-1465, or Sandy Wong at 599-1409)

---

## **RECOMMENDATION**

That the Technical Advisory Committee (TAC) approve the recommendations contained in this report for an incentive program for local jurisdictions to participate in the development and implementation of a comprehensive transportation and land use plan for the El Camino Real (ECR) Corridor.

## **FISCAL IMPACT**

This program will provide significant financial incentives for the fourteen jurisdictions along the ECR Corridor to participate in the process, conduct detailed land use planning for their individual jurisdictions, and to implement specific projects. Approximately four jurisdictions per year will be awarded planning grants of up to \$50,000 for this purpose.

The cost to C/CAG to modify the PLACES Land Use Model will be \$60,000 and the cost for technical support to operate the Model at the meetings with the fourteen local jurisdictions will be \$100,000. The cost to C/CAG for using the C/CAG Travel Forecasting Model to determine the transportation impacts of various land use and transportation scenarios will be determined as a result of a request for proposals for overall modeling support that will be issued in October 2005.

## **SOURCE OF FUNDS**

The initial planning grants to enable local jurisdictions to participate in the planning process and workshops will be derived from the Congestion Relief Plan.

The cost to modify the PLACES Land Use Model and to operate it at the fourteen meetings with the local jurisdictions will be \$160,000. These funds will be derived from Federal SAFETEA-LU Planning Grants and C/CAG Member Assessments. Funds for general modeling is included in

the 2006 C/CAG Budget. C/CAG staff is in the process of identifying additional sources of funding to support the planning and implementation efforts of local jurisdictions that will be participating in this process.

### **BACKGROUND/DISCUSSION**

Currently there are a number of different initiatives that will all have significant impacts on the future of the El Camino Real (ECR) Corridor's development. This Corridor has the potential to become the backbone in San Mateo County for transit, affordable housing, Intelligent Transportation Systems, and incident management for State Route 101. In order to accomplish this lofty goal, all of these initiatives must be coordinated and integrated as part of an overall comprehensive process. The local jurisdictions that are along this Corridor must control this process through their oversight and active participation. The intent of this program is to facilitate improvements to El Camino Real (ECR) through an incentive program and to compliment and not duplicate other efforts.

### **INCENTIVE PROGRAM**

The foundation of this process will be the provision of significant incentives to the jurisdictions that participate in the planning and implementation of the Corridor Plan. The approach being used is to provide an incentive to get the Cities/ County interested in updating the plans for El Camino Real. Appropriate conditions are then placed on the incentive to get the planning information necessary for C/CAG to develop a complete El Camino Real Corridor Plan. Attachment 1 provides an overview of the incentive program. Additionally the Local ECR Corridor Plans are a requirement to make the Cities/ County eligible for additional planning and implementation funds. It is felt that this combination will provide a strong incentive for all the Cities and County to participate. Although there is general agreement that ECR has great untapped potential for transportation and land use improvements, local jurisdictions do not have the resources to undertake a significant planning effort and then implement the improvements that are the result of consensus building. The incentive program being proposed includes the following incentives:

1. Planning grants will be provided to initiate development of a plan for El Camino that will require participation in a Local ECR Workshop by the City/ County land-use decision-makers.
2. Jurisdictions that develop or have developed a Local ECR Corridor plan that is consistent with certain broad transportation and land use objectives for the ECR Corridor will be eligible for up to \$50,000 in detailed planning funding to support their local planning/ General Plan/ Zoning process. There are two ways that the Local ECR plan can be considered as eligible for funding:
  - a. An existing locally adopted plan that is consistent with C/CAG adopted transportation and land use objectives for the Corridor.
  - b. Participation in a Local ECR Workshop conducted by C/CAG and adoption of strategies that are consistent with C/CAG adopted transportation and land use objectives for the Corridor.
3. Additional incentives will be provided for jurisdictions to implement these plans. In order

to make the work conducted under #1 and 2 a reality, local jurisdictions may have to make zoning changes and General Plan Amendments. Furthermore they will need funding to make community and infrastructure improvements, and potentially to provide enticements for developers and new businesses. C/CAG will be coordinating with a number of partners including SamTrans, the Transportation Authority, MTC, ABAG, and Caltrans to develop incentives to assist with this effort. Some of these will likely include:

- a. Eligibility for Transit Oriented Development grants on El Camino Real.
- b. Transportation capital improvement grants.
- c. Implementation of transit improvements.
- d. Local transportation services operating grants.
- e. Bicycle and pedestrian improvement grants.
- f. Assistance with the design of community improvements.
- g. Landscaping and other beautification grants.

## **PLANNING PROCESS**

A detailed flow chart in Attachment 2 (will be provided at the meeting) illustrates all of the elements of the process and how they link together. In general the Planning Process will be as follows:

- 1- C/CAG will develop a consensus on a definition for the role for El Camino Real.
- 2- C/CAG will develop a modeling tool. The ABAG Places model will be used and optimized for El Camino Real.
- 3- C/CAG will develop targets for land-use for the Cities and County.
- 4- ECR land-use will be defined through the ECR Corridor Workshops, Local ECR Corridor Plans, or C/CAG defined targets. This completes the initial land use definition for ECR.
- 5- The ECR Transportation network is defined jointly between C/CAG/TA, City, and Samtrans. This completes the initial transportation definition for ECR.
- 6- The land-use and transportation definition is matched and input to the Travel Demand Forecasting Model and an analysis performed.
- 7- Based on the initial match it may be necessary to fine tune the Transportation – Land Use definition and then rerun the model and perform a final analysis.
- 8- A complete El Camino Real Corridor Plan is then developed based on the ECR definition, the Partnerships, and the final analysis of the Transportation – Land Use Match.

## **PARTNERSHIPS**

This process will require the participation of many partners. There currently exists a unique opportunity to embark on such a significant effort because there are already a number of initiatives already underway that can provide resources and technical assistance to support critical components of the process. Furthermore, the recent merger of the State Senate Housing and Transportation Committees will likely mean future State mandates linking land use and transportation, and potentially will provide significant incentives for jurisdictions that have already taken steps in this direction. Attachment 3 illustrates many of the initiatives and partnerships that have already been brought together to support this ECR Corridor Plan process.

## **CMAQ RECOMMENDATION**

The Congestion Management and Air Quality Committee (CMAQ) reviewed and voted to support these recommendations at its meeting on September 26, 2005. Detailed CMAQ Comments are provided in Attachment 4. Some of the comments from this meeting include:

- C/CAG's leadership in this effort is important because it represents all of the cities and the County. Other previous efforts were too limited and only involved a few cities.
- This process must truly be a bottoms up process that involves the local jurisdictions in a significant way in the decision making.
- There should not be a duplication of effort with studies already completed or underway and these jurisdictions should be eligible for incentive funding.
- Transit systems must be a key component of any strategy for improving the El Camino Real Corridor including links with the adjacent cities along the corridor and to the east and west.
- This process should look out over a 20 year period covering the entire corridor and encourage jurisdictions to develop joint efforts instead of individual plans.
- The functionality of El Camino Real as an important transportation corridor for the movement of people and goods must be the key objective of this process.
- The incentive structure should be enhanced for cities that are more inclusive in its efforts to work with its neighboring jurisdictions.

## **DETAILED RECOMMENDATIONS**

Approve an incentive program for local jurisdictions to participate in the development and implementation of a comprehensive transportation and land use plan for the El Camino Real (ECR) Corridor as contained in this report.

1. Approve the process for the development and implementation of an ECR Corridor Plan including the incentive program as presented in this report.
2. Approve a Resolution authorizing the C/CAG Chair to execute an agreement with Design, Community and Environment to modify the PLACES 3 Land Use Model and operate it at the various jurisdiction meetings for a total amount of \$60,000.
3. Approve a Resolution authorizing the C/CAG Chair to execute a Memorandum of Understanding (non-financial agreement) with the Association of Bay Area Governments



to provide technical assistance to C/CAG staff and the participating local jurisdictions at no cost to C/CAG or the jurisdictions.

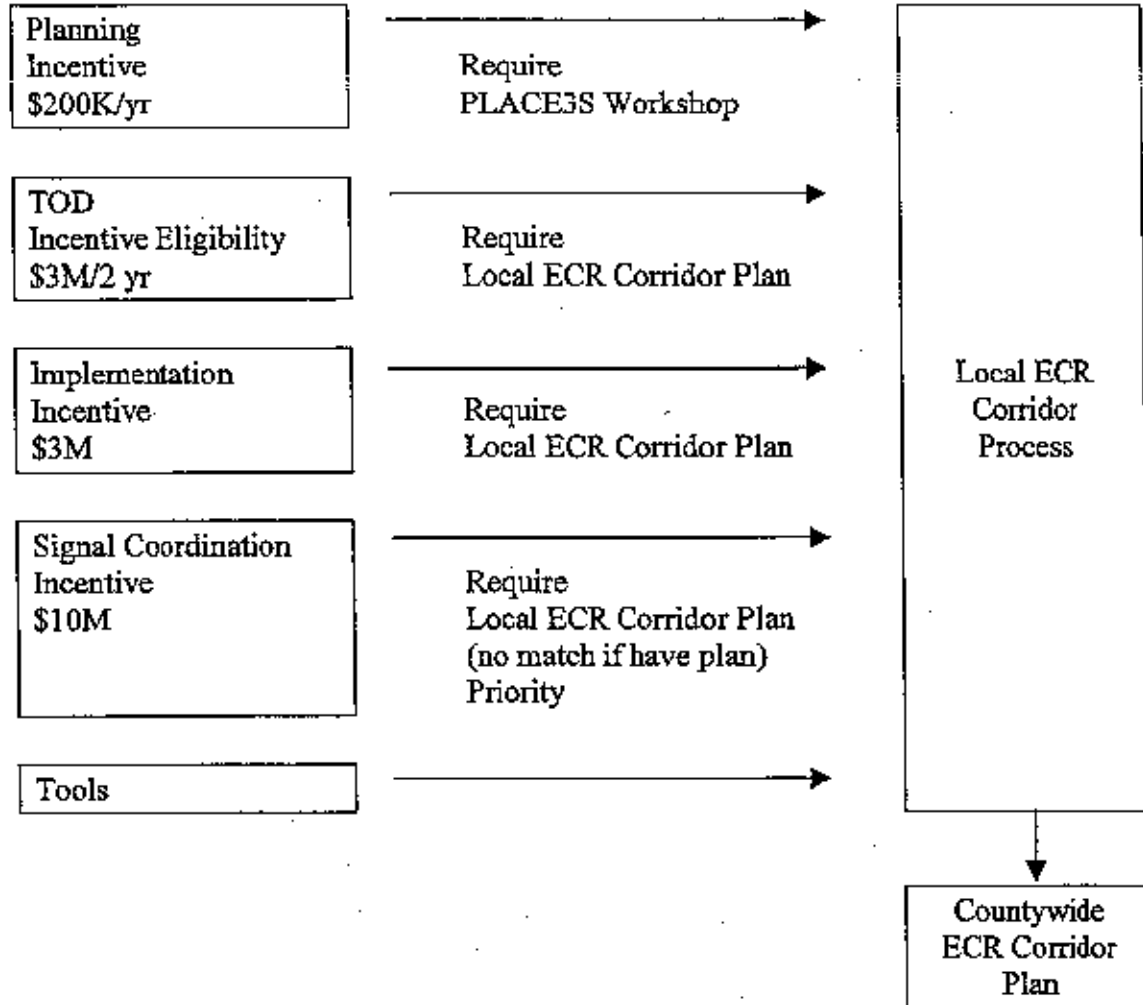
### **ALTERNATIVES**

1. Adopt the recommendations as presented in this report.
2. Adopt the recommendations with modifications.
3. Reject the recommendations.

### **ATTACHMENTS**

1. ECR Incentive Program
2. Attachment 2 - El Camino Real Planning Process Description
3. Attachment 3 – Partnerships
4. Attachment 4 - CMAQ Comments

## El Camino Real Incentive Program



## ATTACHMENT 2

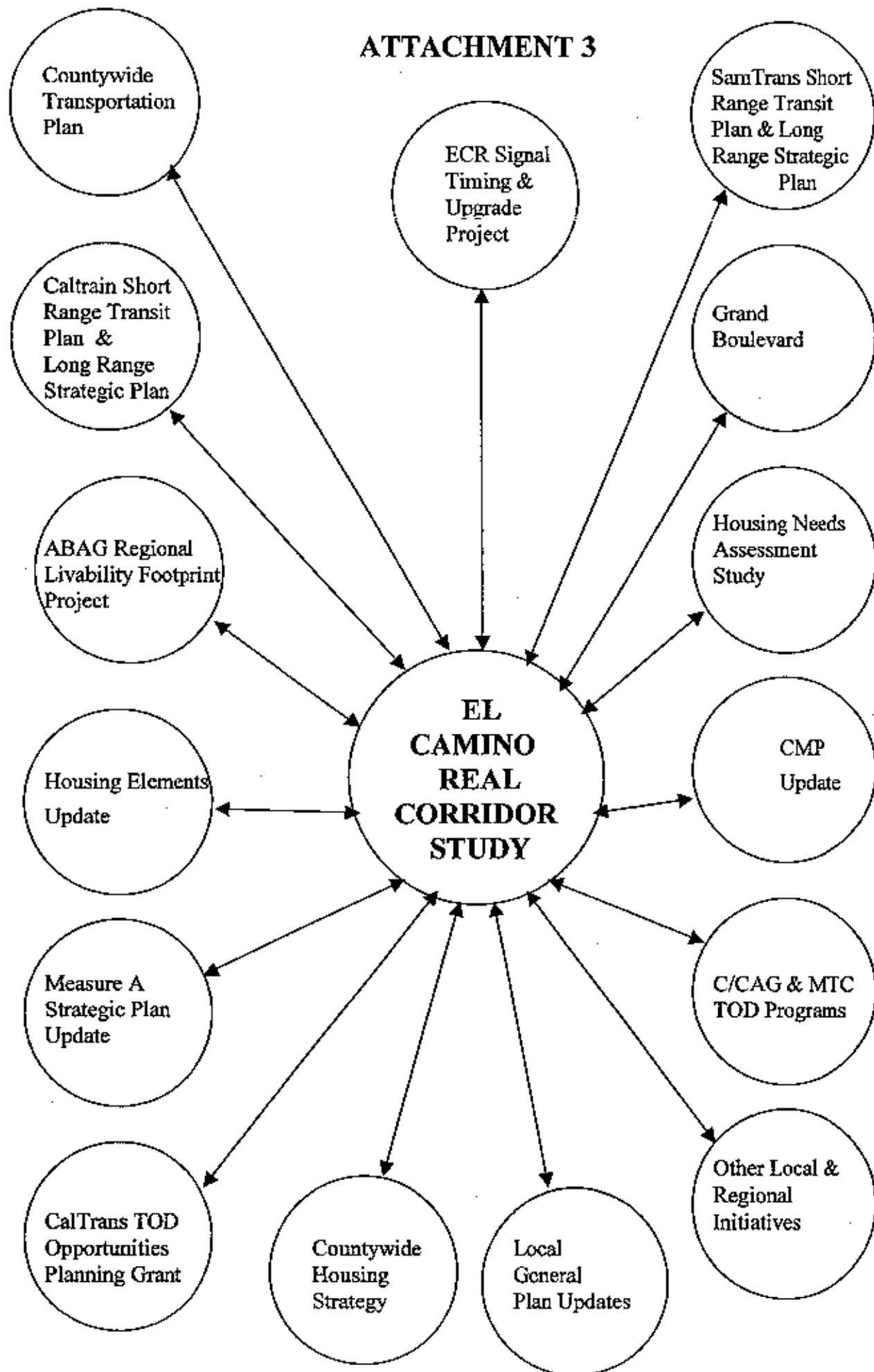
### EL CAMINO REAL PLANNING PROCESS DESCRIPTION

A sequential listing of the major tasks and the process that will be used to accomplish them is also provided as follows:

TASK	PROCESS
Develop a tool to facilitate land use and transportation planning.	Contract to have the PLACES 3 Model adapted to have planning areas that match the traffic analysis zones in the C/CAG Travel Forecasting Model for the El Camino Real (ECR) Corridor.
<p>Develop broad transportation objectives for the El Camino Real (ECR) Corridor.</p> <ol style="list-style-type: none"> <li>1. ITS.</li> <li>2. Incident management reliever route for SR 101.</li> <li>3. Maximize transit viability.</li> <li>4. Improve the movement of goods and people between communities.</li> <li>5. Make ECR the preferred and most efficient route for trips of up to ____ miles.</li> <li>6. Support the commercial and retail aspects of the ECR Corridor.</li> </ol>	Brainstorm with TAC, CMAQ, and C/CAG Board.
Establish jobs and housing units targets by Traffic Analysis Zone (TAZ) that would minimize traffic congestion, maximize non single occupant vehicle use, and support the broad transportation objectives for the Corridor.	Use C/CAG Travel Forecasting Model to test various land use and transportation scenarios to determine an ideal jobs and land use mix that has the most positive impact on the transportation network and supports the broad transportation objectives for the Corridor.
Provide incentive funding to local jurisdictions to participate in a process to identify potential land use changes that support the transportation objectives. Conduct individual meetings over a 3-year period with all 13 jurisdictions along the Corridor (approximately 4 jurisdictions per year).	Use the PLACES Model to identify land use patterns to accomplish the broad transportation objectives by striving to attain the jobs and housing targets established with the Travel Forecasting Model. Each of the jurisdictions will re-plan the city/ town by balancing community needs and objectives with attaining

<ol style="list-style-type: none"> <li>1. City Councils/ Board of Supervisors</li> <li>2. Planning Commissions</li> <li>3. Staff</li> <li>4. Other individuals/groups identified by the City/ County elected officials</li> <li>5. Approximately 5 to 7 individuals per group</li> </ol>	<p>critical densities to accomplish transportation objectives.</p> <p>Jurisdictions can also qualify for incentive funds if they already have an adopted ECR Plan that supports the transportation objectives, or if they adopt the jobs and housing targets for each TAZ.</p>
<p>Provide additional incentive funding for jurisdictions to adopt these changes by making General Plan amendments and zoning changes.</p>	<p>Local jurisdiction process.</p>
<p>Design a detailed transportation network including transit, roadway, bike, pedestrian, and other improvements that tie the Corridor together, while complementing the land use patterns established by the jurisdictions that have completed planning processes. Identify.</p>	<p>Use the C/CAG Travel Forecasting Model to assist with the development of more detailed transportation network goals, objectives, and performance measures. Identify specific transportation improvements that will be needed to accomplish those goals. Test the impacts of these improvements with the Model.</p>
<p>Provide incentive funding to assist jurisdictions in implementing previously agreed upon land use changes.</p>	<p>Establish the ECR Corridor as a priority for the receipt of TOD, Bike/Ped., Grand Boulevard, Housing Investment Program, TLC, and other funds. Funding would go to those jurisdictions that apply to build projects consistent with the land use changes agreed to in the ECR Corridor planning process.</p>
<p>Build transportation capital improvements that implement the transportation network previously designed.</p>	<p>Establish the ECR Corridor as a priority for the funding of transportation capital improvements that implement the Corridor Plan. Potential funding sources include Federal SAFETEA-LU, STIP, Congestion Relief Plan, Measure A, Caltrans, and regional discretionary funds.</p>

### ATTACHMENT 3



## ATTACHMENT 4

### CMAQ COMMENTS

Some of the comments from these meetings included:

- C/CAG's leadership in this effort is important because it represents all of the cities and the County. Other previous efforts were too limited and only involved a few cities.
- The impacts on the cities not directly on the El Camino Real should also be considered. The project should represent a countywide effort.
- This process must truly be a bottoms up process that involves the local jurisdictions in a significant way in the decision making.
- There should not be a duplication of effort with studies already completed or underway and these jurisdictions should be eligible for incentive funding.
- Cross jurisdiction planning should be encouraged so that there can be coordination across jurisdictional boundaries.
- Transit systems must be a key component of any strategy for improving the El Camino Real Corridor including links with the adjacent cities along the corridor and to the east and west.
- Best management practices that are learned from this process should be shared and benchmarks to measure the progress that is made as a result of the process should be established.
- The PLACES Model should be made available to the various local jurisdictions so that they can continue to use it for planning purposes.
- Staff members of the local jurisdictions should also be involved in the workshops.
- The use of eminent domain and the elimination of the base of small businesses along El Camino Real must not be the outcome. Large scale developments combined with the support of small Mom and Pop businesses have an equal role in the revitalization of the El Camino Real Corridor.
- This process should look out over a 20 year period covering the entire corridor and encourage jurisdictions to develop joint efforts instead of individual plans.
- The functionality of El Camino Real as an important transportation corridor for the movement of people and goods must be the key objective of this process.
- The diversity of the individual jurisdictions should be preserved while also creating a transportation system that works for our residents.
- The PLACES Model has a number of different layers beyond jobs and housing, such as water usage, air quality, pedestrian friendliness and others. These resource layers will provide added benefits to the cities.
- The incentive structure should be enhanced for cities that are more inclusive in its efforts to work with its neighboring jurisdictions.
- The corridor that will be included in this effort should be defined broadly to include the Caltrain line.
- El Camino Real is a vital business district and a fully functioning transportation corridor. In order to attain the desired reduction in congestion and an increase in market share for transit, these aspects of the Corridor should be enhanced.
- Systems integration will be a critical component to making this process successful.
- An incentive should be provided to the cities to do the public input process correctly so that the actual residents and businesses that will be affected can participate.

# **C/CAG AGENDA REPORT**

**Date:** October 20, 2005  
**To:** C/CAG Technical Advisory Committee (TAC)  
**From:** Richard Napier, Executive Director  
**Subject:** RECOMMENDATION TO ADOPT POLICY ON TRAFFIC IMPACT ANALYSIS TO DETERMINE IMPACTS ON THE CONGESTION MANAGEMENT PROGRAM (CMP) ROADWAY NETWORK RESULTING FROM ROADWAY CHANGES, GENERAL PLAN UPDATES, AND LAND USE DEVELOPMENT PROJECTS  
  
(For further information or questions contact Sandy Wong at 599-1409)

---

## **RECOMMENDATION**

That the Technical Advisory Committee (TAC) recommend approval of the draft policy on traffic impact analysis to determine impacts on the CMP roadway network resulting from roadway changes, General Plan Updates, and land use development projects.

## **FISCAL IMPACT**

None.

## **SOURCE OF FUNDS**

Policy compliance will be performed by existing C/CAG staff.

## **BACKGROUND/DISCUSSION**

At the August 18, 2004 TAC meeting, a draft policy on traffic forecasting and traffic impact analysis to determine impacts on the congestion management program (CMP) roadway network was introduced. The intent of the policy is to provide uniform procedures to analyze traffic impacts from projects and cumulative traffic impacts from General Plans and Specific Area Plans on the CMP network, and to set thresholds for mitigations. At that meeting, TAC members requested that a subcommittee be formed to analyze this issue and make recommendations, particularly with regard to what is consider "significant" impact.

Since then, a subcommittee with the following volunteers was created: Fernando Bravo (East Palo Alto), Corinne Goodrich (SanTrans), Lance Hall (Caltrans), Joe Hurley (SMCTA), Tom Madalene (County Planning & C/CAG), Patricia Maurice (Caltrans), Parviz Mokhtari (San Carlos), Meg Monroe (Burlingame), Richard Napier (C/CAG), Larry Patterson (San Mateo), Mo Sharma (Daly City), Sandy Wong (C/CAG). In addition, Neil Cullen (County) has provided input to the process. The subcommittee conducted five meetings and developed a revised draft policy.

The revised draft policy was presented at the April 21, 2005 TAC meeting. At that time, the TAC requested that the mitigation measures be further developed. This 2<sup>nd</sup> revised draft attempts to do that.

## **ATTACHMENT**

Draft policy on traffic impact analysis to determine impacts on the Congestion Management Program (CMP) roadway network.

# C/CAG

## CITY/COUNTY ASSOCIATION OF GOVERNMENTS OF SAN MATEO COUNTY

*Atherton • Belmont • Brisbane • Burlingame • Colma • Daly City • East Palo Alto • Foster City • Half Moon Bay • Hillsborough • Menlo Park •  
Millbrae • Pacifica • Portola Valley • Redwood City • San Bruno • San Carlos • San Mateo • San Mateo County • South San Francisco • Woodside*

**TO:** City Managers, Planning Directors, Public Works Directors, City Planners and Engineers

**FROM:** Richard Napier, C/CAG Executive Director

**DATE:** Date

**RE:** POLICY ON TRAFFIC IMPACT ANALYSIS (TIA) TO DETERMINE IMPACTS ON THE CONGESTION MANAGEMENT PROGRAM (CMP) ROADWAY NETWORK RESULTING FROM ROADWAY MODIFICATIONS, GENERAL PLAN UPDATES, AND LAND USE DEVELOPMENT PROJECTS

### **Background**

As the Congestion Management Agency for San Mateo County, C/CAG is responsible for maintaining the performance and standards of the Congestion Management Program (CMP) roadway network. The CMP roadway network is of countywide significance, and the performance of these roads must be preserved.

This document states policy and establishes procedures to determine capacity impacts on the CMP roadway network (impacts on the quality of traffic services) from the following three types of projects:

1. Modification to the roadway that will either reduce the capacity of or cause additional traffic on the CMP roadway network.
2. General Plan Updates and Specific Plans.
3. Land use development project.

Traffic impact analysis should be conducted as part of the CEQA process, but no later than project approval by Council or Board.

This policy provides an avenue to assess the cumulative traffic impacts on the CMP network, of General Plan decisions made by local jurisdictions. It provides clear direction to local jurisdictions on how to analyze CMP impacts resulting from roadway changes or land use decisions, determine feasible and appropriate mitigations.

The intent of this proposed policy is to preserve acceptable performance on the CMP roadway network, and to establish community standards for consistent system-wide transportation review. Preservation of CMP roadway and intersection performance will require an evaluation of the near and long term impacts of General Plan updates, land use development proposals, as well as proposed roadway

Revised Draft Oct. 27, 2005



modifications that will either reduce the capacity of the CMP network, or cause additional traffic on the CMP network. Land use development proposals and proposed roadway modifications must be consistent with adopted General Plan. Local jurisdictions must evaluate traffic impacts of proposed revisions to their General Plan, including Specific Plans, on the CMP network. The near term analysis may use manual assignment models, micro-simulation models or other tools to provide a more detailed and informative analysis of proposed development or roadway projects.

## **Policy**

### **1. Roadway Modification Projects**

Project sponsor shall determine if a roadway modification project will have potential traffic impacts on the CMP roadway network. If yes, must conduct travel demand forecasting and traffic impact analysis to determine traffic impacts on the CMP roadway system. See "Travel Demand Forecasting" requirements below. For scope and parameters of traffic impact analysis, see Appendix A. For definition of traffic impacts on the CMP system, see Appendix B.

#### **Mitigation:**

Proposed roadway changes to the CMP network that are determined to have a CMP impact for current or future years cannot be considered in conformity with the Congestion Management Program unless mitigated to no CMP impact.

CMP traffic impacts could be mitigated through modifications of the proposed project. The level of service analysis or simulation can often be used to identify elements of the project that, if modified, will reduce the project impacts. Mitigation measures may also include roadway improvements, operational changes, or a provision for alternate routes. For example, adding a turn lane at the intersection, modifying or eliminating on street parking may improve travel times. All mitigation measures shall first be discussed with and reviewed by C/CAG staff.

### **2. General Plan Updates and Specific Plans**

Project sponsor shall determine if a General Plan Update or Specific Plan will have potential traffic impacts on the CMP roadway network. Jurisdictions must conduct travel demand forecasting and traffic impact analysis to determine cumulative traffic impacts on the CMP roadway system. See "Travel Demand Forecasting" requirements below. For scope and parameters of traffic impact analysis, see Appendix A. For definition of traffic impacts on the CMP system, see Appendix B.

#### **Mitigation:**

General Plan updates or Specific Plans that are determined to have a CMP impact must consult C/CAG staff to identify feasible mitigations.

Cumulative development traffic impacts identified in the evaluation of a jurisdiction

Revised Draft Oct. 27, 2005

may be mitigated in a variety of ways. Clearly, revising the allowable land use intensities is the most direct way to mitigate traffic impacts to the CMP network. However, it is recognized that this may not be consistent with the jurisdiction's economic development plans. As alternatives, the jurisdiction may adopt a trip reduction policy that requires new development to make measurable reductions in their trip generation. These trip reduction requirements should be incorporated in the standard Conditions of Approval. The local jurisdiction should also implement a plan to monitor or sample actual trip generation to ensure that the trip reduction conditions are being met following project occupancy. Alternatively, jurisdictions may elect to provide capital improvements to reduce the traffic impact of cumulative development. To be viable, this type of mitigation must include a reliable funding mechanism such as a traffic mitigation fee program that includes funding for the impacted CMP roadways. Where the impact is on the freeway system it will usually not be feasible to fully fund a needed improvement through a local fee. However, the fee program should provide a minimum of funding that would meet likely local share requirements.

All mitigation measures shall first be discussed with and reviewed by C/CAG staff before they are included in the report.

### **3. Land Use Development Projects**

Project sponsor shall comply with the "Land Use Impact Analysis Program" guidelines in the latest Congestion Management Program (CMP) for San Mateo County. Project sponsors shall consult C/CAG staff regarding land use development projects that are determined to have traffic impacts on the CMP network.

#### **Mitigations:**

Adopted General Plan trip reduction requirements should ultimately be implemented at the project level through Conditions of Approval. As with the General Plan mitigations, the trip reduction program should include some plan for monitoring trip generation and procedures if established targets are met or exceeded. The option to reduce the intensity of a project to eliminate significant impacts to the CMP network should also be considered. If physical mitigation is desired, the jurisdiction should determine whether the project can and should be required to construct the mitigation project or whether funding the project's pro rata share is appropriate.

Qualified Transit Oriented Development (TOD) projects may receive exemption from the requirements of this policy.

### **Travel Demand Forecasting Requirements**

For CMP roadway modification projects, or General Plan updates, or Specific Area Plans, the C/CAG Countywide Travel Forecasting Model must be used to forecast traffic demand to be used in traffic impact analysis. A C/CAG derivative model that is consistent with the C/CAG model may also be used; however, it must be reviewed and approved by C/CAG staff in advance. Approval of a C/CAG

Revised Draft Oct. 27, 2005

derivative model includes the demonstration to C/CAG staff that the model yields similar output as the C/CAG model given the same input assumptions. In addition, the land use assumptions and transportation network assumptions incorporated in a C/CAG derivative model must be consistent with the most recent C/CAG model in order to be eligible for consideration. The C/CAG Countywide Travel Demand Forecasting Model runs must be reviewed by C/CAG. C/CAG may hire its travel demand model consultant to conduct the review, and costs incurred will be borne by the project sponsor.

For land use development projects, the use of C/CAG Countywide Travel Forecasting Model or a C/CAG derivative model is encouraged. However, the use of methodologies that are widely accepted by the traffic engineering profession are also allowable.

## **C/CAG Review for Conformance**

For roadway modification projects, C/CAG staff shall review for consistency with these TIA guidelines and determine conformity with the CMP.

For General Plan updates, Specific Plans, and land use development projects, C/CAG staff shall review TIA reports for consistency with these TIA guidelines. This review shall not constitute approval or disapproval of the project that is the subject of the report. C/CAG does not have the authority to approve or reject projects. That decision rests with the lead agency. However, the CMP establishes community standards and guidelines for consistent system-wide transportation review and provides comments to the lead agency on the TIA report based on staff review. Compliance with the CMP may be enforced through the withholding of apportionments under Section 2105 of the Streets & Highways Code as well as declaring a local agency ineligible for future transportation funds.

## **Applicability and Future Updates**

This policy will be reviewed and updated in two years.

This policy will be integrated into the next Congestion Management Program for San Mateo County which includes policies regarding the evaluation of private development projects. Revision to the relevant chapter(s) of the San Mateo County Congestion Management Program will be necessary for clarification and consistency purposes. Until its amendment into the Congestion Management Program, this policy shall act as an advisory for jurisdictions to use to evaluate projects.

## **Reference:**

1. Congestion Management Program (CMP) for San Mateo County:  
<http://www.ccag.ca.gov/CMP2005.html>
2. "Guide For The Preparation of Traffic Impact Studies", Caltrans, December 2002,  
<http://www.dot.ca.gov/hq/traffops/developserv/operationalsystems/reports/tisguide.pdf>

Revised Draft Oct. 27, 2005

## **Scope and Parameters of Traffic Impact Analysis (TIA)**

Project sponsors must initiate consultation between the lead agency, C/CAG, Caltrans (if applicable), and those preparing the TIA before commencing work on the study to establish the appropriate traffic impact analysis scope. At a minimum, the TIA should include the following:

### **A. Boundaries of the TIA**

The boundaries of a TIA must not only include the immediate project area but also areas outside of the project area that may be impacted by the project. For example, the boundaries of an arterial segment, for analysis purposes, may be defined as at least one signalized intersection beyond the project limits on either end. If modification to a segment between intersections will affect the up-stream or down-stream intersection, then average travel time or average travel speed for a segment covering the up- and down-stream intersections must be analyzed.

Boundaries of a TIA must be agreed upon by the lead agency, C/CAG and Caltrans (if applicable), before commencing work on the analysis.

### **B. Traffic Analysis Scenarios**

Consultation between the lead agency, C/CAG, Caltrans (if applicable), and those preparing the TIA is recommended to determine the appropriate scenarios for the analysis. The following scenarios should be addressed as a minimum:

- Existing condition (includes already approved developments and roadway network changes)
- Existing condition plus Project
- Future (15<sup>1</sup> to 20 year horizon) background without Project (no-build)
- Future (20 year horizon) background condition plus project

### **C. Analysis Period**

Consultation between the lead agency, C/CAG, Caltrans (if applicable), and those preparing the TIA is recommended to determine the appropriate analysis periods. The TIA shall include, at a minimum, an analysis of transportation conditions in the AM and PM peak hours.

### **D. Facilities To Be Included In the Analysis**

---

<sup>1</sup> 20-year Model forecasts are assumed to be updated every 5 years so forecast horizon may be as short as 15 years.

1. A CMP intersection shall be included in a TIA if it is expected to be impacted by the proposed project.
2. A non-CMP intersection that is along a CMP segment shall be included in a TIA if it is expected to be impacted by the proposed project.
3. A freeway segment shall be included in a TIA if it is expected to be impacted by the proposed project.
4. A CMP arterial segment shall be included in a TIA if it is expected to be impacted by the proposed project.

#### E. Report Format

Traffic Impact Analysis reports must present findings for the various analysis scenarios and analysis periods as described above in the following units of measurement:

Intersections:	LOS and delay time
Freeway segments:	LOS and volume-to-capacity ratio
Arterial segments:	LOS and average travel speed

## **Definition of CMP Impact**

A project is considered to have a CMP impact if it causes one or more of the following:

1. **CMP Intersection currently in compliance with the adopted LOS standard:**
  - A. A project will be considered to have a CMP impact if the project will cause the CMP intersection to operate at a level of service that violates the standard adopted in the current Congestion Management Program (CMP).
  - B. A project will be considered to have a CMP impact if the cumulative analysis indicates that the combination of the proposed project and future cumulative traffic demand will result in the CMP intersection to operate at a level of service that violates the standard adopted in the current Congestion Management Program (CMP) and the proposed project increases average control delay at the intersection by four (4) seconds or more.
2. **CMP Intersection currently not in compliance with the adopted LOS standard:**

A project is considered to have a CMP impact if the project will add any additional traffic to the CMP intersection that is currently not in compliance with its adopted level of service standard as established in the CMP.
3. **Freeway segments <sup>1</sup> currently in compliance with the adopted LOS standard:**
  - A. A project is considered to have a CMP impact if the project will cause the freeway segment to operate at a level of service that violates the standard adopted in the current Congestion Management Program (CMP).
  - B. A project will be considered to have a CMP impact if the cumulative analysis indicates that the combination of the proposed project and future cumulative traffic demand will result in the freeway segment to operate at a level of service that violates the standard adopted in the current Congestion Management Program (CMP) and the proposed project increases traffic demand on the freeway segment by an amount equal to one (1) percent or more of the segment capacity, or causes the freeway segment volume-to-capacity (v/c) ratio to increase by one (1) percent.
4. **Freeway segments currently not in compliance with the adopted LOS standard:**

A project is considered to have a CMP impact if the project will add traffic demand equal to one (1) percent or more of the segment capacity or causes the

---

<sup>1</sup> Freeway segments are as defined in the Congestion Management Program Monitoring Program and are directional.

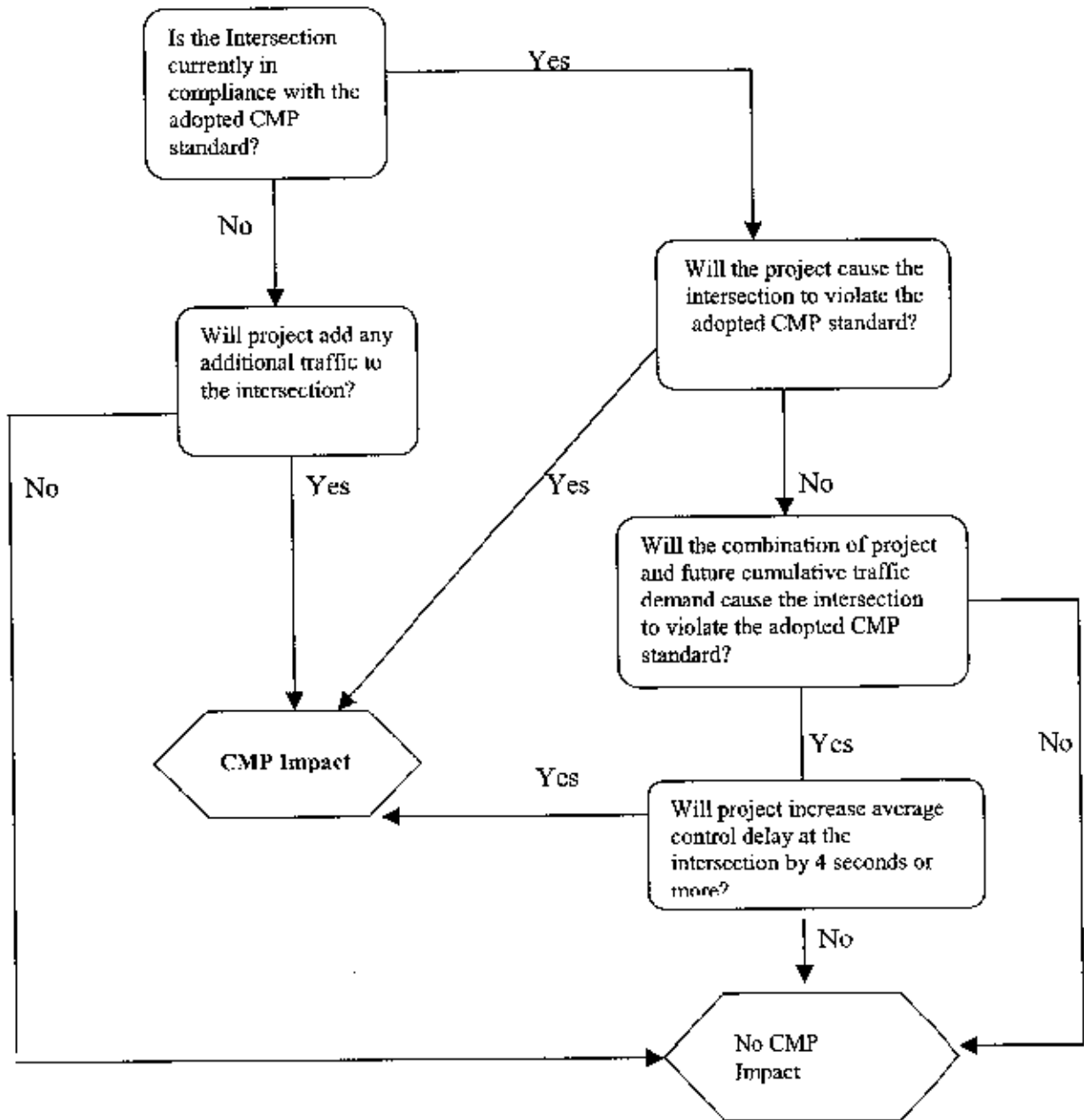
freeway segment volume-to-capacity (v/c) ratio to increase by one (1) percent, if the freeway segment is currently not in compliance with the adopted LOS standard.

## **5 CMP Arterial Segments :**

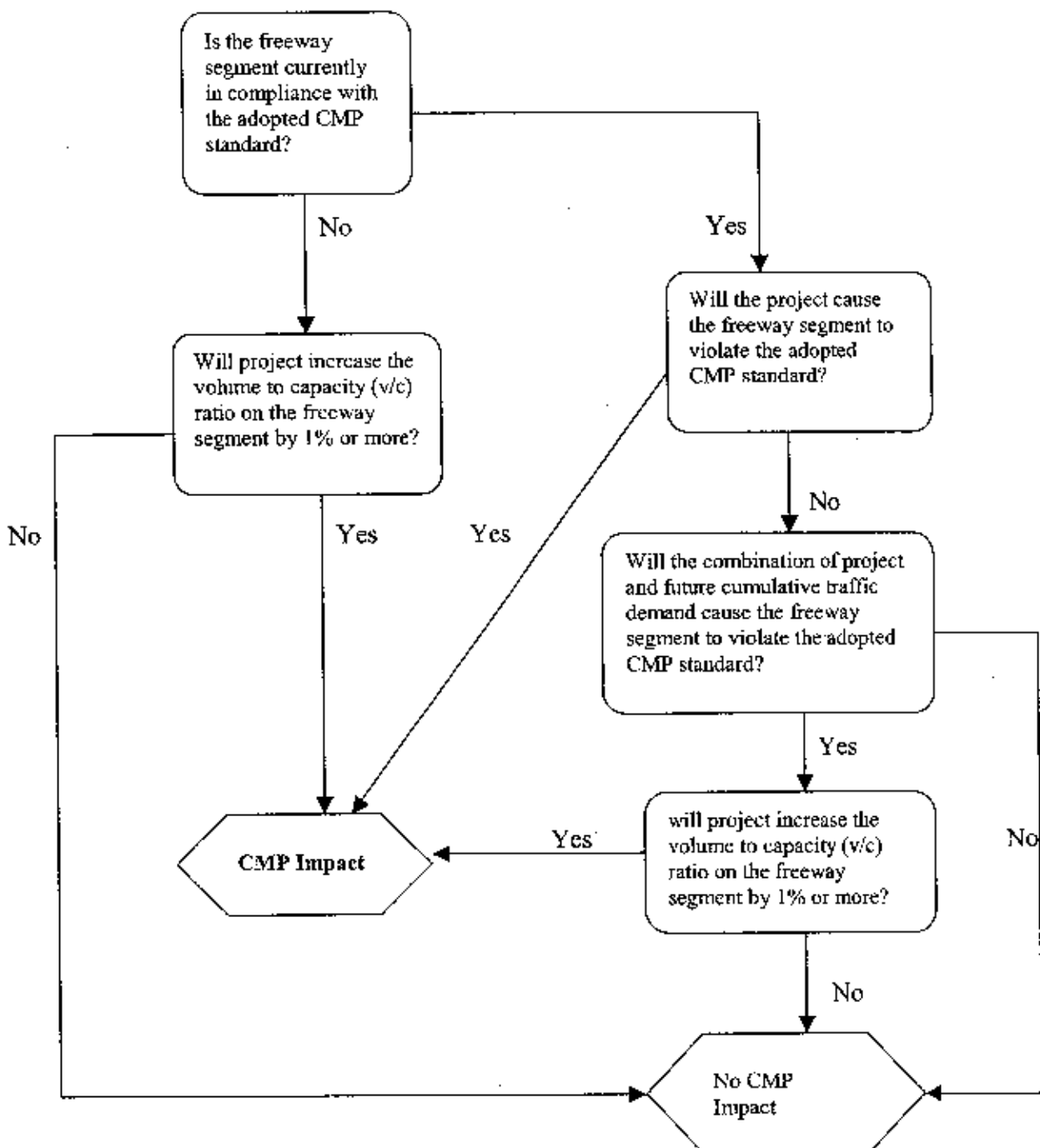
The analysis of arterial segments is only required when a jurisdiction proposes to reduce the capacity of a CMP designated arterial through reduction in the number of lanes, adding or modifying on-street parking, or other actions that will affect arterial segment performance.

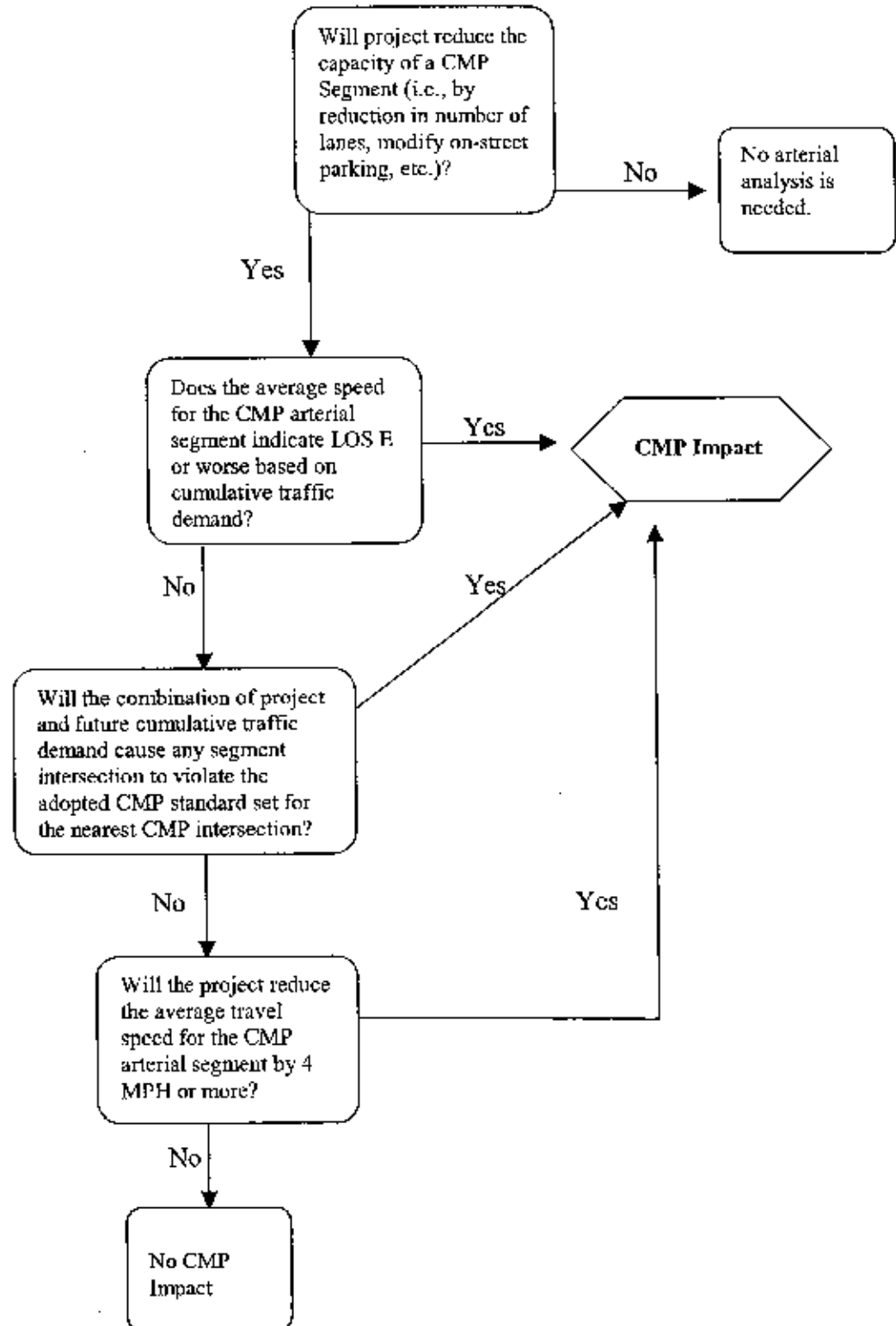
A project is considered to have a CMP impact if it causes mid-block queuing, parking maneuver resulting in delays or other impacts that result in any segment intersection to operate at a level of service that violates the adopted LOS standard set for the nearest CMP intersection.

Analysis of the segment using a calibrated micro-simulation model may be required by C/CAG staff to evaluate non-intersection impacts of the proposed project. CMP impact is determined if, based on the micro-simulation model, the average travel speed for the arterial segment is reduced by 4 miles per hour (mph) or more. Segments with average speeds that indicate LOS E or worse (based on Exhibit 15-2, HCM2000) cannot be modified by local jurisdictions if the proposed modifications would further reduce travel speeds on the segment.

**To determine CMP impact on a CMP Intersection**



**To determine CMP impact on a Freeway Segment**

**To determine CMP impact on Arterial Segment**

Flow chart for traffic impacts on the congestion management program (CMP) roadway network

